

WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device comprising the steps of:

(a) providing a semiconductor chip having a semiconductor element and an external terminal formed on a main surface thereof;

(b) providing a wiring substrate having a wiring and an opening, the wiring is revealed on a main surface of the wiring substrate and an adhesive is appended on a rear surface of the wiring substrate, opposite of the main surface thereof;

(c) adhering the main surface of the semiconductor chip on the rear surface of the wiring substrate by way of the adhesive as the adhesive is protruding from an outer periphery of the semiconductor chip;

(d) electrically connecting the wiring with the external terminal through the opening; and

(e) after the step (d), cutting the wiring substrate together with the adhesive to form an outer periphery thereof outside of the outer periphery of the semiconductor chip.

2. A method of manufacturing a semiconductor device comprising the steps of:

(a) providing a semiconductor chip having a plurality of semiconductor elements and a plurality of external terminals formed on a main surface thereof;

(b) providing a wiring substrate having a plurality of wirings and an opening, the wirings are revealed on a main surface of the wiring substrate and an adhesive is appended on a rear surface of the wiring substrate, opposite of the main surface thereof;

(c) adhering the main surface of the semiconductor chip on the rear surface of the wiring substrate by way of the adhesive as the adhesive is protruding from an outer periphery of the semiconductor chip;

(d) electrically connecting the plurality of wirings with the plurality of external terminals through the opening, respectively; and

(e) after the step (d), cutting the wiring substrate together with the adhesive to form an outer periphery thereof outside of the outer periphery of the semiconductor chip.

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3. A method of manufacturing a semiconductor device according to claim 2, further comprising a step of forming a solder ball on each of revealed portions of the wirings.

4. A method of manufacturing a semiconductor device according to claim 2, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the plurality of external terminals by using ones of a plurality of Au wires.

5. A method of manufacturing a semiconductor device according to claim 2, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the plurality of external terminals through ones of a plurality of leads.

6. A method of manufacturing a semiconductor device according to claim 2, in the step (e), the wiring substrate and the adhesive are cut along a same cutting line.

7. A method of manufacturing a semiconductor device according to claim 2, wherein the wiring substrate is comprised of a polyimide tape.

8. A method of manufacturing a semiconductor device comprising the steps of:

(a) providing a semiconductor chip having a plurality of semiconductor elements and a plurality of external terminals formed on a main surface thereof;

(b) providing a wiring substrate having a plurality of wirings and an opening, the wirings are revealed on a main surface of the wiring substrate and a layer having adhesion is applied on a rear surface of the wiring substrate, opposite of the main surface thereof;

(c) adhering the main surface of the semiconductor chip on the rear surface of the wiring substrate by way of the layer as the layer is protruding from an outer periphery of the semiconductor chip;

(d) electrically connecting the plurality of wirings with the plurality of external terminals through the opening, respectively, and

(e) after the step (d), cutting the wiring substrate together with the layer to form outer peripheries thereof outside of the outer periphery of the semiconductor chip.

9. A method of manufacturing a semiconductor device according to claim 8, further comprising a step of forming a solder ball on each of revealed portions of the wirings.

10. A method of manufacturing a semiconductor device according to claim 8, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the plurality of external terminals by using ones of a plurality of Au wires.

11. A method of manufacturing a semiconductor device according to claim 8, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the plurality of external terminals through ones of a plurality of leads.

12. A method of manufacturing a semiconductor device according to claim 8, wherein in the step (e), the wiring substrate and the layer are cut along a same cutting line.

13. A method of manufacturing a semiconductor device according to claim 8, wherein the wiring substrate is comprised of a polyimide tape.

14. A method of manufacturing a semiconductor device according to claim 8, wherein the step (b) comprises a

step of forming the layer on the rear surface of the wiring substrate by printing.

15. A method of manufacturing a semiconductor device according to claim 8, wherein the layer has a thickness larger than that of the wiring substrate.

16. A method of manufacturing a semiconductor device according to claim 15, wherein in the step (e), the wiring substrate and the layer are cut along a same cutting line.

17. A method of manufacturing a semiconductor device according to claim 16, wherein the wiring substrate is comprised of a polyimide tape.

18. A method of manufacturing a semiconductor device according to claim 17, wherein the step (b) comprises a step of forming the layer on the rear surface of the wiring substrate by printing.

19. A method of manufacturing a semiconductor device according to claim 18, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the

plurality of external terminals by using ones of a plurality of Au wires.

20. A method of manufacturing a semiconductor device according to claim 18, wherein the step (d) comprises a step of electrically connecting individual ones of the plurality of wirings with corresponding ones of the plurality of external terminals through ones of a plurality of leads.

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